CT State Department of Education

Transition to the Common Core State Standards for Mathematics in Connecticut

Guidelines for Full Implementation by 2014-2015

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In July 2010, the Connecticut State Board of Education adopted the Common Core State Standards (CCSS) for Mathematics. Between now and the 2014-2015 school year, districts must make a full transition from Connecticut's previous math standards to the CCSS. Beginning in 2014-2015, the state assessment for mathematics will assess students on the concepts and skills outlined in the CCSS.

In addition to adopting new standards for mathematics, Connecticut has taken an active role as a governing state in the Smarter Balanced Assessment Consortium (SBAC). As part of its overall assessment system, the consortium is currently developing summative assessments for mathematics and English Language Arts to be administered in the final 12 weeks of the 2014-2015 school year to students in Grades 3-8 and in Grade 11.

The purpose of this document is to provide guidance for schools and districts to move toward full implementation of the math standards prior to the administration of the new assessments. The transition in mathematics must be done in a thoughtful manner to address the following challenges:

- The vertical progression of mathematical understanding often assumes a certain level of student prior knowledge;
- The content at each grade level will undergo changes from Connecticut's previous standards;
- Teachers and curriculum specialists must decide how to incorporate the new standards and replace standards that are no longer aligned at each grade level; and
- Students entering Grade 9 in 2012 will be responsible for all standards that appear in the first three years of high school mathematics, as outlined in Appendix A of the Common Core State Standards for Mathematics document.

The following pages outline a transition plan that takes into account the need for *full implementation* of the CCSS for Grade 9 students in the 2012-2013 school year. If students are to be adequately prepared for full standards implementation in Grade 9 beginning in 2012, Grade 8 curriculum and instruction must partially transition to the new standards in 2011-2012. For some districts, this change may require a complete overhaul of their current systems, especially if a significant number of students is currently entering Grade 9 in a mathematics course that is considered lower than Algebra 1. [Additional guidance for implementation of the Grades 9-12 standards will follow at a later date.]

While Grade 8 is the most critical factor in the initial transition, this document outlines a transition plan that would introduce a fraction of new standards at every grade level each year for the next four years to allow students full access to the grade level mathematics standards by 2014-2015. This approach allows us to engage teachers at all grade levels (K-8) in the process and gradually build toward full implementation, rather than asking any one group of teachers to make a large scale change all at once. The tables on the following pages highlight two different approaches that districts or schools might consider for making the transition to the new standards in mathematics. The first column gives guidance for implementing the standards in mathematical domains by grade, adding one or two new domains each year over the course of the transition phase. The domains were selected based on their relative importance using a backwards-mapping strategy that assumes full implementation of the Grade 9 standards in 2012-2013. Teachers and curriculum specialists should work together to determine which standards are no longer essential grade level content and *creatively* incorporate certain skills into the new content. For example, if Grade 7 teachers typically teach operations with fractions, they should incorporate these skills into instruction on the standards found in the domains *Ratios and Proportional Relationships* and *The Number System* rather than as a separate body of content.
The second column provides guidance for the implementation of a subset of units based on the curriculum unit shells that have been developed jointly by the Connecticut State Department of Education and stakeholders in the mathematics education community, including broad participation from institutes

of higher education, local education agencies, and regional education service centers. The curriculum unit shells were also selected based on their relative importance in terms of full implementation in Grade 9 by 2012; thus, there should be significant overlap between the domains presented in column 1 and the units listed in column 2.

It is important to remember that not all standards in a domain will be completely new to a particular grade level from a content perspective. There may be cases initially where the transition does not require sacrificing any standards to successfully incorporate standards from the CCSS. This does not mean, however, that the new standards are identical to Connecticut's former standards. Teachers and curriculum specialists should read the standards to identify key student understandings, and then use this information to develop or locate learning tasks and discuss how instruction must change under the new standards.

In the immediate future, it is essential to collaborate with grade level teachers on ways to incorporate new content by changing instructional practices and resources to better address the intent of the standards selected for 2011-2012. This may require identifying current content that is no longer included at the grade level and either removing it completely or rethinking it in another context (if it is still important for assessments and accountability). For example, the CCSS do not introduce the concept of probability until Grade 7 (although the domain Probability and Statistics appears in Grade 6). Therefore, it is important for teachers at lower grades to incorporate some basic probability into their work on fractions and/or percents to balance two competing issues: the transition to the new standards for curriculum and instruction and the accountability measures based on assessments of Connecticut's previous standards. An analysis of displaced grade level content based on Connecticut's previous curriculum standards can be found at the bottom of each table and may help guide the decision making process. In general, the CCSS represent a rigorous body of mathematical content and students should be engaged in mathematical thinking that meets or exceeds the expectations of our current accountability system (i.e., CMT and CAPT). A few cases, such as that highlighted in the probability example, will need greater attention by districts in moving forward.

	Kindergarten Domains	Kindergarten Units[1]
2011-2012	• *Operations and Algebraic Thinking*	Unit 5: Addition & Subtraction within 0-5 Unit 6: Addition & Subtraction within 10
2012-2013	• *Operations and Algebraic Thinking* • *Number and Operations in Base Ten*	Unit 5: Addition & Subtraction within 0-5 Unit 6: Addition & Subtraction within 10 Unit 7: Teen Numbers (11-19) and Counting to 100
2013-2014	• *Operations and Algebraic Thinking* • *Number and Operations in Base Ten* • *Counting and Cardinality*	Unit 1: Counting and Matching Numerals 0-5 with Comparing Unit 2: Counting and Matching Numerals 6-10 with Comparing Unit 3: Counting and Matching Numerals 11-20 Unit 5: Addition & Subtraction within 0-5 Unit 6: Addition & Subtraction within 10 Unit 7: Teen Numbers (11-19) and Counting to 100
2014-2015	• *Operations and Algebraic Thinking* • *Number and Operations in Base Ten* • *Counting and Cardinality* • *Geometry* • *Measurement and Data*	Unit 1: Counting and Matching Numerals 0-5 with Comparing Unit 2: Counting and Matching Numerals 6-10 with Comparing Unit 3: Counting and Matching Numerals 11-20 Unit 4: Identify & Describe 2-D & 3-D Shapes Unit 5: Addition & Subtraction within 0-5 Unit 6: Addition & Subtraction within 10 Unit 7: Teen Numbers (11-19) and Counting to 100 Unit 8: Compare, Analyze and Compose 2-D and 3-D Shapes Unit 9: Measurement

Displaced Grade-Level Concepts (Former CT Grade K content that is no longer in Grade K under the CCSS)

- Patterns (First appear in Grade 3 of CCSS)
- Relationships between part & whole; fractional reasoning (Slight focus in Grade 2 CCSS, then strong focus in Grades 3-5)
- Story problems (Grade K CCSS focus on multiple informal representations for addition and subtraction
    - IMPORTANT NOTE: Addition and subtraction EQUATIONS (those using an equal symbol) are introduced in Grade 1, not in kindergarten.
- Money (First appears in Grade 2 of CCSS)
- Time using calendar (does not explicitly appear in CCSS)
- Data collection (Limited in CCSS to counting objects in classified sets)
- Probability (First appears in Grade 7 of CCSS)

[1] The unit titles refer to shells that have been developed to organize the content and practice standards into coherent clusters for curriculum development. These will be available on the Connecticut State Department of Education website. Please use the unit titles to guide the implementation as the unit numbers are subject to change.

	Grade 1 Domains	Grade 1 Units[2]
2011-2012	• *Numbers and Operations in Base Ten*	Unit 5: Counting and Place Value Unit 1: Using Place Value and Properties of Operations to Add and Subtract
2012-2013	• *Numbers and Operations in Base Ten* • *Operations and Algebraic Thinking*	Unit 2: Addition and Subtraction within Ten Unit 4: Addition and Subtraction within Twenty Unit 5: Counting and Place Value Unit 7: Addition and Subtraction within 100
2013-2014	• *Numbers and Operations in Base Ten* • *Operations and Algebraic Thinking* • *Measurement and Data*	Unit 2: Addition and Subtraction within Ten Unit 4: Addition and Subtraction within Twenty Unit 5: Counting and Place Value Unit 6: Measuring Length with Non-Standard Units Unit 7: Addition and Subtraction within 100 Unit 8: Time
2014-2015	• *Numbers and Operations in Base Ten* • *Operations and Algebraic Thinking* • *Measurement and Data* • *Geometry*	Unit 1: Reasoning with 2-D and 3-D Shapes Unit 2: Addition and Subtraction within Ten Unit 3: Partitioning Circles and Rectangles Unit 4: Addition and Subtraction within Twenty Unit 5: Counting and Place Value Unit 6: Measuring Length with Non-Standard Units Unit 7: Addition and Subtraction within 100 Unit 8: Time

Displaced Grade-Level Concepts (Former CT Grade 1 content that is no longer in Grade 1 under the CCSS)

- Patterns (First appear in Grade 3 of CCSS)
- Relationships between part & whole; fractional reasoning (Slight focus in Grade 2 CCSS, then strong focus in Grades 3-5)
- Other discrete topics: Use of a balance scale; ordinal numbers; estimating; describing location, direction, position;
- Money & Calendar (Money focused in Grade 2 CCSS, Calendar not part of CCSS)
- Data (Data in Grade 1 CCSS is limited to organization, representation and analysis with up to three categories)
- Probability (First appears in Grade 7 of CCSS)

[2] The unit titles refer to shells that have been developed to organize the content and practice standards into coherent clusters for curriculum development. These will be available on the Connecticut State Department of Education website. Please use the unit titles to guide the implementation as the unit numbers are subject to change.

	Grade 2 Domains	Grade 2 Units[3]
2011-2012	• *Numbers and Operations in Base Ten*	Unit 3: Place Value Unit 5: Addition and Subtraction within 100 Unit 8: Addition and Subtraction within 1000
2012-2013	• *Numbers and Operations in Base Ten* • *Operations and Algebraic Thinking*	Unit 1: Fact strategies (Addition and Subtraction) up to Twenty Unit 3: Place Value Unit 5: Addition and Subtraction within 100 Unit 8: Addition and Subtraction within 1000 Unit 10: Exploring Multiplication
2013-2014	• *Numbers and Operations in Base Ten* • *Operations and Algebraic Thinking* • *Measurement and Data*	Unit 1: Fact strategies (Addition and Subtraction) up to Twenty Unit 3: Place Value Unit 4: Linear Measurement with Standard Units Unit 5: Addition and Subtraction within 100 Unit 6: Representing, Analyzing and Interpreting Data Unit 7: Money Unit 8: Addition and Subtraction within 1000 Unit 9: Time Unit 10: Exploring Multiplication
2014-2015	• *Numbers and Operations in Base Ten* • *Operations and Algebraic Thinking* • *Measurement and Data* • *Geometry*	Unit 1: Fact strategies (Addition and Subtraction) up to Twenty Unit 2: Reasoning with Shapes Unit 3: Place Value Unit 4: Linear Measurement with Standard Units Unit 5: Addition and Subtraction within 100 Unit 6: Representing, Analyzing and Interpreting Data Unit 7: Money Unit 8: Addition and Subtraction within 1000 Unit 9: Time Unit 10: Exploring Multiplication

Displaced Grade-Level Concepts (Former CT Grade 2 content that is no longer in Grade 2 under the CCSS)

- Patterns (First appear in Grade 3 of CCSS)
- Expanded form (There is a huge emphasis on place value, but not writing numbers in expanded form using multiplication as in CT GLEs)
- Relationships between part & whole; fractional reasoning (Limited to partitioning geometric shapes in Grade 2 CCSS)
- Estimation (primarily only seen in the measurement standards in Grade 2 CCSS)
- Calendar
- Three-dimensional shapes
- Temperature, balance scales, capacity, volume, area, weight (emphasis in CCSS on linear measurement in Grade 2)
- Probability (First appears in Grade 7 of CCSS)
- Tables, tallies, posing data collection questions

[3] The unit titles refer to shells that have been developed to organize the content and practice standards into coherent clusters for curriculum development. These will be available on the Connecticut State Department of Education website. Please use the unit titles to guide the implementation as the unit numbers are subject to change.

	Grade 3 Domains	Grade 3 Units[4]
2011-2012	• *Number and Operations in Base Ten* • *Number and Operation – Fractions*	Unit 2: Computing with Whole Numbers Unit 6: Understanding Fractions Unit 7: Reasoning about Fraction Comparisons and Equivalence
2012-2013	• *Number and Operations in Base Ten* • *Number and Operation – Fractions* • *Measurement and Data*	Unit 2: Computing with Whole Numbers Unit 3: Exploring Measurement and Data Unit 6: Understanding Fractions Unit 7: Reasoning about Fraction Comparisons and Equivalence
2013-2014	• *Number and Operations in Base Ten* • *Number and Operation – Fractions* • *Measurement and Data* • *Operations and Algebraic Thinking*	Unit 1: Understanding Multiplication and Division Unit 2: Computing with Whole Numbers Unit 3: Exploring Measurement and Data Unit 4: Understanding Area and Perimeter Unit 6: Understanding Fractions Unit 7: Reasoning about Fraction Comparisons and Equivalence
2014-2015	• *Number and Operations in Base Ten* • *Number and Operation – Fractions* • *Measurement and Data* • *Operations and Algebraic Thinking* • *Geometry*	Unit 1: Understanding Multiplication and Division Unit 2: Computing with Whole Numbers Unit 3: Exploring Measurement and Data Unit 4: Understanding Area and Perimeter Unit 5: Reasoning about 2-Dimensional shapes Unit 6: Understanding Fractions Unit 7: Reasoning about Fraction Comparisons and Equivalence

Displaced Grade-Level Concepts (Former CT Grade 3 content that is no longer in Grade 3 under the CCSS)

- Sorting, classifying, ordering, repeating patterns
- Comparing numbers using inequalities is focused on *fractions* in the CCSS for Grade 3
- Expanded form
- Ratios
- Money, including operations with money
- Calendars
- Data – major shift in focus
- Probability
- Capacity, weight, temperature
- Three-dimensional shapes
- Symmetry
- Coordinate grid

There is a major focus in the Grade 3 CCSS for Geometry on understanding area.

[4] The unit titles refer to shells that have been developed to organize the content and practice standards into coherent clusters for curriculum development. These will be available on the Connecticut State Department of Education website. Please use the unit titles to guide the implementation as the unit numbers are subject to change.

	Grade 4 Domains	Grade 4 Units[5]
2011-2012	• *Number and Operations in Base Ten* • *Number and Operation – Fractions*	Unit 4: Comparing Fractions and Understanding Decimal Notation Unit 5: Building Understanding of Addition, Subtraction, and Multiplication of Fractions
2012-2013	• *Number and Operations in Base Ten* • *Number and Operation – Fractions* • *Measurement and Data*	Unit 3: Multi-digit Whole Number Computation Unit 4: Comparing Fractions and Understanding Decimal Notation Unit 5: Building Understanding of Addition, Subtraction, and Multiplication of Fractions
2013-2014	• *Number and Operations in Base Ten* • *Number and Operation – Fractions* • *Measurement and Data* • *Operations and Algebraic Thinking*	Unit 1: Understanding and Using Place Value to Multiply and Divide Unit 2: Factors and Multiples Unit 3: Multi-digit Whole Number Computation Unit 4: Comparing Fractions and Understanding Decimal Notation Unit 5: Building Understanding of Addition, Subtraction, and Multiplication of Fractions Unit 6: Solving Problems Involving Measurement and Data
2014-2015	• *Number and Operations in Base Ten* • *Number and Operation – Fractions* • *Measurement and Data* • *Operations and Algebraic Thinking* • *Geometry*	Unit 1: Understanding and Using Place Value to Multiply and Divide Unit 2: Factors and Multiples Unit 3: Multi-digit Whole Number Computation Unit 4: Comparing Fractions and Understanding Decimal Notation Unit 5: Building Understanding of Addition, Subtraction, and Multiplication of Fractions Unit 6: Solving Problems Involving Measurement and Data Unit 7: Exploring Angles and Angle Measurement Unit 8: Understanding Properties of 2-dimentional Figures

<u>Displaced Grade-Level Concepts (Former CT Grade 4 content that is no longer in Grade 4 under the CCSS)</u>

- Ratios and proportions
- Story problems (Focus is on problem solving, not problem writing)
- Recall of basic facts
- Three-dimensional solids
- Coordinate grids
- Geometric transformations (reflections, rotations, translations)
- Calendars and clocks
- Circle graphs and broken line graphs
- Range, median, mode, mean
- Probability

[5] The unit titles refer to shells that have been developed to organize the content and practice standards into coherent clusters for curriculum development. These will be available on the Connecticut State Department of Education website. Please use the unit titles to guide the implementation as the unit numbers are subject to change.

	Grade 5 Domains	Grade 5 Units[6]
2011-2012	• *Number and Operations in Base Ten* • *Number and Operation – Fractions*	Unit 1: Understanding the Place Value System Unit 2: Computing with Whole Numbers and Decimals Unit 4: Addition and Subtraction of Fractions Unit 5: Making Sense of Multiplication of Fractions Unit 6: Understanding Division of a Unit Fraction and a Whole Number
2012-2013	• *Number and Operations in Base Ten* • *Number and Operation – Fractions* • *Geometry*	Unit 1: Understanding the Place Value System Unit 2: Computing with Whole Numbers and Decimals Unit 4: Addition and Subtraction of Fractions Unit 5: Making Sense of Multiplication of Fractions Unit 6: Understanding Division of a Unit Fraction and a Whole Number Unit 7: Classifying 2-Dimensional Figures
2013-2014	• *Number and Operations in Base Ten* • *Number and Operation – Fractions* • *Geometry* • *Measurement and Data*	Unit 1: Understanding the Place Value System Unit 2: Computing with Whole Numbers and Decimals Unit 4: Addition and Subtraction of Fractions Unit 5: Making Sense of Multiplication of Fractions Unit 6: Understanding Division of a Unit Fraction and a Whole Number Unit 7: Classifying 2-Dimensional Figures Unit 8: Exploring Volumes of Solid Figures
2014-2015	• *Number and Operations in Base Ten* • *Number and Operation – Fractions* • *Geometry* • *Measurement and Data* • *Operations and Algebraic Thinking*	Unit 1: Understanding the Place Value System Unit 2: Computing with Whole Numbers and Decimals Unit 3: Algebraic Connections Unit 4: Addition and Subtraction of Fractions Unit 5: Making Sense of Multiplication of Fractions Unit 6: Understanding Division of a Unit Fraction and a Whole Number Unit 7: Classifying 2-Dimensional Figures Unit 8: Exploring Volumes of Solid Figures
Displaced Grade-Level Concepts (Former CT Grade 5 content that is no longer in Grade 5 under the CCSS) • Variables and equations • Numbers – Negative, prime, composite, perfect squares • Equivalent fractions, ratios, percent • Perimeter and area (Focus is on volume) • Calendars and clocks • Probability • All graphs except line plots, which are used for a very specific purpose • Surveys • Mean, Median, Mode, Range		
	Grade 6 Domains	**Grade 6 Units[7]**

[6] The unit titles refer to shells that have been developed to organize the content and practice standards into coherent clusters for curriculum development. These will be available on the Connecticut State Department of Education website. Please use the unit titles to guide the implementation as the unit numbers are subject to change.

2011-2012	• *The Number System* • *Geometry*	Unit 2: Operating with Positive Rational Numbers Unit 3: Understanding Positive and Negative Numbers Unit 4: Applications of Geometry
2012-2013	• *The Number System* • *Geometry* • *Expressions and Equations*	Unit 1: Using Expressions and Equations Unit 2: Operating with Positive Rational Numbers Unit 3: Understanding Positive and Negative Numbers Unit 4: Applications of Geometry Unit 6: Algebraic Reasoning I
2013-2014	• *The Number System* • *Geometry* • *Expressions and Equations* • *Statistics and Probability*	Unit 1: Using Expressions and Equations Unit 2: Operating with Positive Rational Numbers Unit 3: Understanding Positive and Negative Numbers Unit 4: Applications of Geometry Unit 6: Algebraic Reasoning I Unit 7: Statistics and Distributions
2014-2015	• *The Number System* • *Geometry* • *Expressions and Equations* • *Statistics and Probability* • *Ratios and Proportional Relationships*	Unit 1: Using Expressions and Equations Unit 2: Operating with Positive Rational Numbers Unit 3: Understanding Positive and Negative Numbers Unit 4: Applications of Geometry Unit 5: Ratios and Rates Unit 6: Algebraic Reasoning I Unit 7: Statistics and Distributions

Displaced Grade-Level Concepts (Former CT Grade 6 content that is no longer in Grade 6 under the CCSS)

- Place value, including expanded form notation (students understanding of place value should come to closure in Grade 5)
- Fraction, decimal, percent equivalence (Introduction to percent in Grade 6 takes a different approach)
- Addition and subtraction of fractions (Most fractional operations have come to closure – focus on dividing fractions by fractions)
- Estimation
- Symmetry
- Geometric translations
- Radius, diameter, circumference
- Scale models and similar figures
- Probability

[7] The unit titles refer to shells that have been developed to organize the content and practice standards into coherent clusters for curriculum development. These will be available on the Connecticut State Department of Education website. Please use the unit titles to guide the implementation as the unit numbers are subject to change.

	Grade 7 Domains	Grade 7 Units[8]
2011-2012	• *Expressions and Equations* • *The Number System*	Unit 1: Operating with Rational Numbers (Addition & Subtraction) Unit 2: Operating with Rational Numbers (Multiplication and Division)
2012-2013	• *Expressions and Equations* • *The Number System* • *Geometry*	Unit 1: Operating with Rational Numbers (Addition & Subtraction) Unit 2: Operating with Rational Numbers (Multiplication and Division) Unit 3: Two and Three Dimensional Geometry Unit 5: Algebraic Reasoning II
2013-2014	• *Expressions and Equations* • *The Number System* • *Geometry* • *Statistics and Probability*	Unit 1: Operating with Rational Numbers (Addition & Subtraction) Unit 2: Operating with Rational Numbers (Multiplication and Division) Unit 3: Two and Three Dimensional Geometry Unit 5: Algebraic Reasoning II Unit 6: Inferences About Populations Unit 7: Probability
2014-2015	• *Expressions and Equations* • *The Number System* • *Geometry* • *Statistics and Probability* • *Ratios and Proportional Relationships*	Unit 1: Operating with Rational Numbers (Addition & Subtraction) Unit 2: Operating with Rational Numbers (Multiplication and Division) Unit 3: Two and Three Dimensional Geometry Unit 4: Proportional Reasoning Unit 5: Algebraic Reasoning II Unit 6: Inferences About Populations Unit 7: Probability

Displaced Grade-Level Concepts (Former CT Grade 7 content that is no longer in Grade 7 under the CCSS)

- Independent and dependent variables (In Grade 6 CCSS)
- Linear vs. nonlinear (Grade 8 CCSS)
- Number line (Grade 7 uses the number line for operations, but not for understanding the magnitude of numbers)
- Squares and square root
- Scientific notation (Grade 8 CCSS)
- Powers of 10 (Grade 5 CCSS to maintain coherence with its connection to place value)
- Classifying geometric figures
- Geometric transformations
- Symmetry
- Irregular polygons
- Measurement conversions, including time
- Graphical representations of data (Focus in Grade 7 CCSS more on higher level analyses of distributions)
- Note: The phrase "experimental probability" is not used in CCSS, but students do collect data on chance events in Grade 7

[8] The unit titles refer to shells that have been developed to organize the content and practice standards into coherent clusters for curriculum development. These will be available on the Connecticut State Department of Education website. Please use the unit titles to guide the implementation as the unit numbers are subject to change.

	Grade 8 Domains	Grade 8 Units[9]
2011-2012	• *Expressions and Equations*	Unit 1: Real Numbers Unit 3: Linear Relationships Unit 4: Systems of Linear Relationships
2012-2013	• *Expressions and Equations* • *Functions* • *The Number System*	Unit 1: Real Numbers Unit 3: Linear Relationships Unit 4: Systems of Linear Relationships
2013-2014	• *Expressions and Equations* • *Functions* • *The Number System* • *Geometry*	Unit 1: Real Numbers Unit 2: Pythagorean Theorem Unit 3: Linear Relationships Unit 4: Systems of Linear Relationships Unit 5: Congruence and Similarity Unit 6: Volume
2014-2015	• *Expressions and Equations* • *Functions* • *The Number System* • *Geometry* • *Statistics and Probability*	Unit 1: Real Numbers Unit 2: Pythagorean Theorem Unit 3: Linear Relationships Unit 4: Systems of Linear Relationships Unit 5: Congruence and Similarity Unit 6: Volume Unit 7: Patterns in Data

Displaced Grade-Level Concepts (Former CT Grade 8 content that is no longer in Grade 8 under the CCSS)

- Recursive and explicit formulas
- Equivalent forms of fractions, mixed numbers, decimals and percent
- Computation with numbers and operations (Should be done in the context of Expressions and Equations in Grade 8)
- Percent
- Exponential growth and decay
- Surface area
- Data representations (limited to scatterplots in Grade 8 CCSS)
- Sampling for statistical analyses
- Permutations and combinations

[9] The unit titles refer to shells that have been developed to organize the content and practice standards into coherent clusters for curriculum development. These will be available on the Connecticut State Department of Education website. Please use the unit titles to guide the implementation as the unit numbers are subject to change.